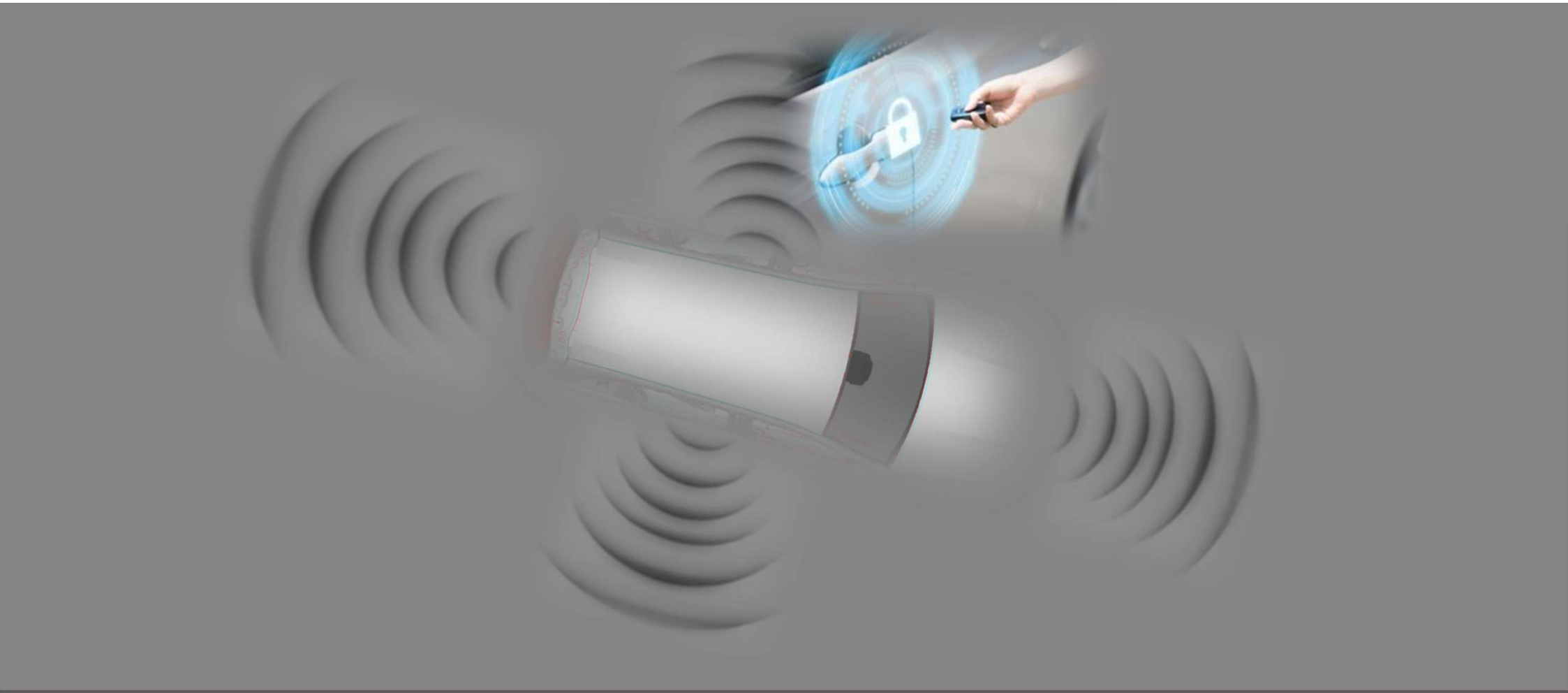


EM - MODEL - CREATION

F. Bologna

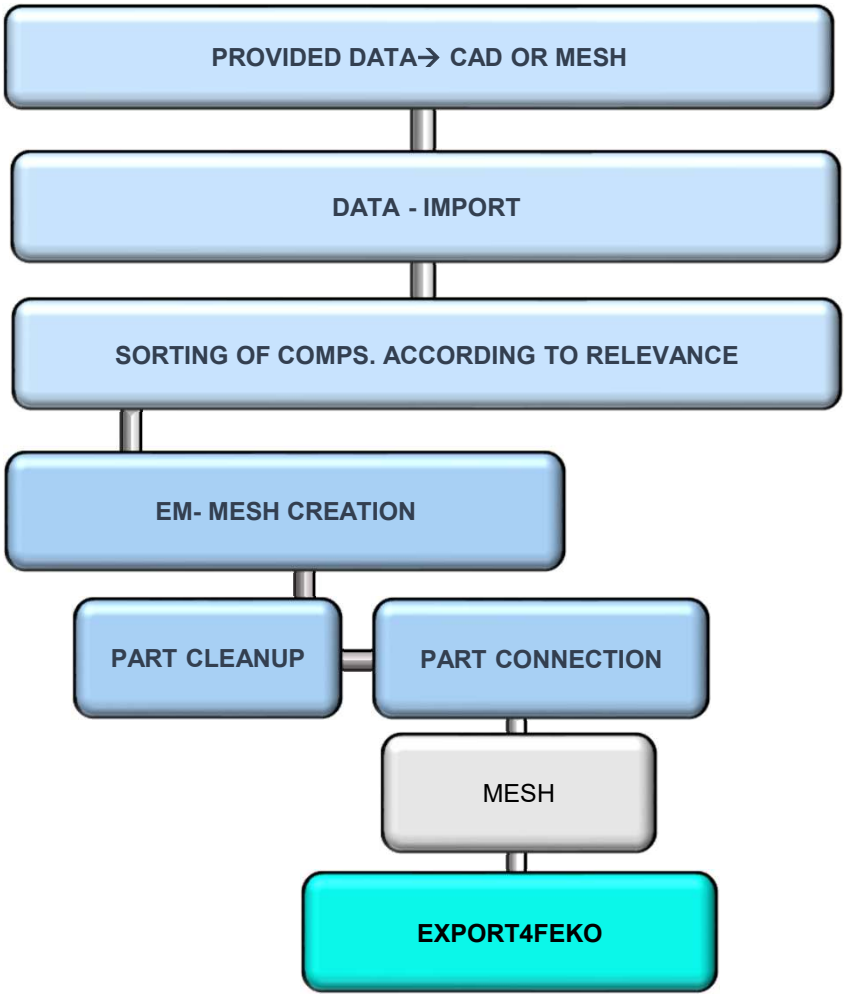
October 2019

HYPERMESH 4FEKO

Altair

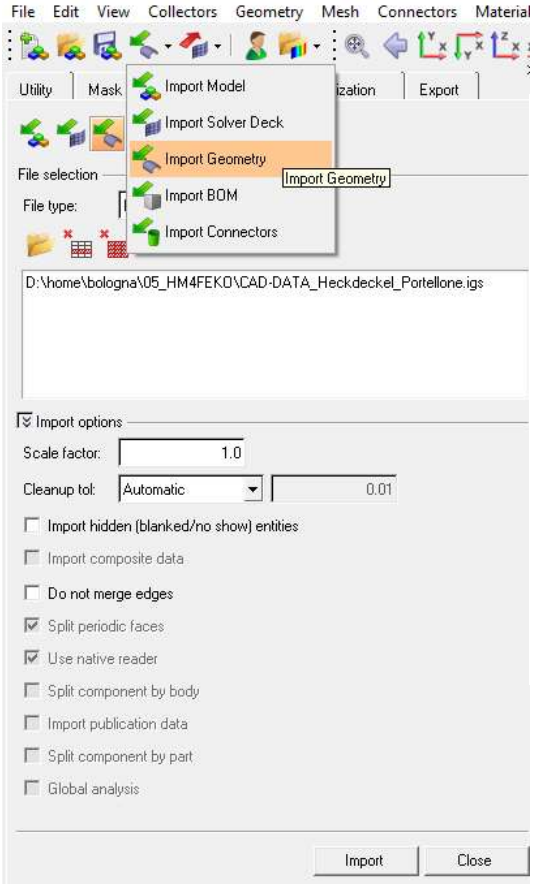
Overview

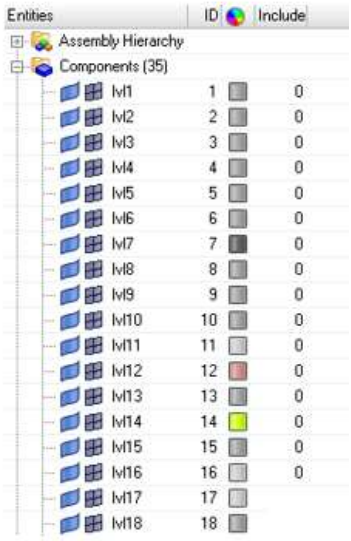
1. Import DATA→ CAD or MESH
2. Selecting the relevant components (Metallic- Parts)
3. Part Cleanup and Simplification – Connection – Mesh Creation
4. HM- EXPORT4FEKO

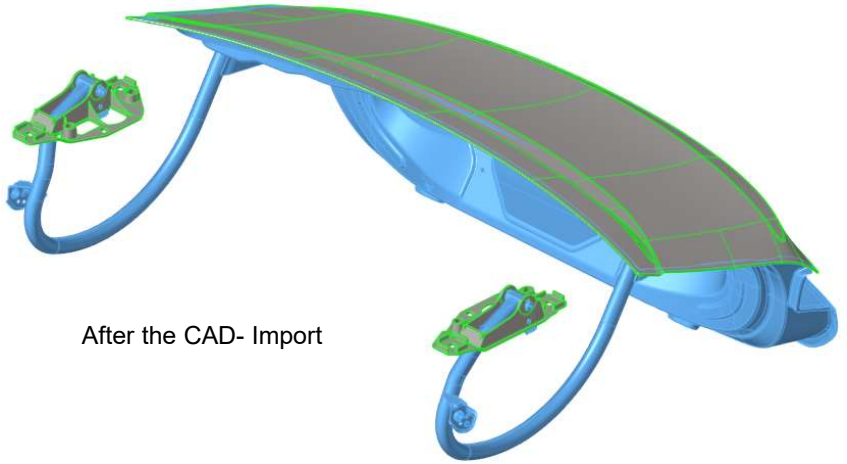


1. Import Data CAD or MESH

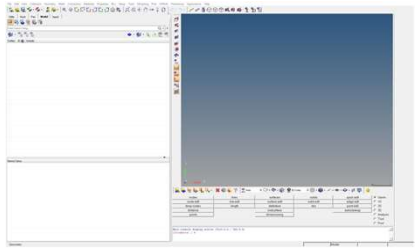
- Import *CAD* Data → *.IGS







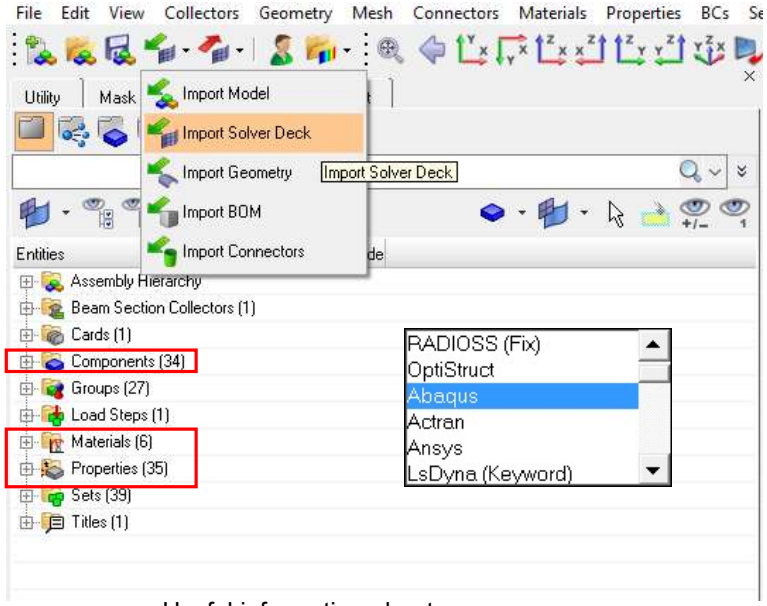
After the CAD- Import



- In general without BOM
  Propertie – Material - Thickness…

Altair

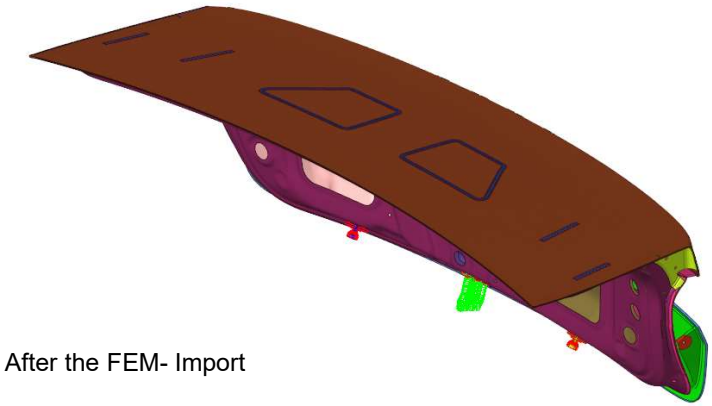
- Import *MESH* Data → *.INC



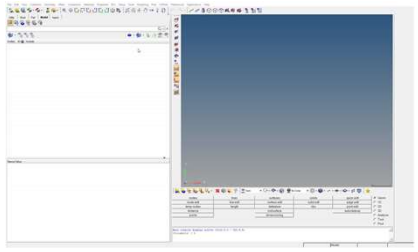
Useful information about:

- Material Properties
- Component Thickness

- The Orig. Import-File was an FEM- ABAQUS Format



After the FEM- Import



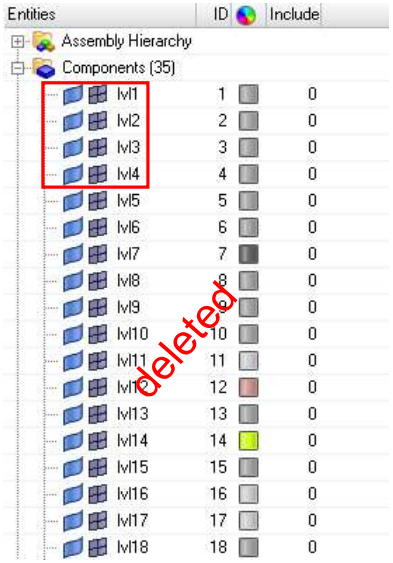
Altair

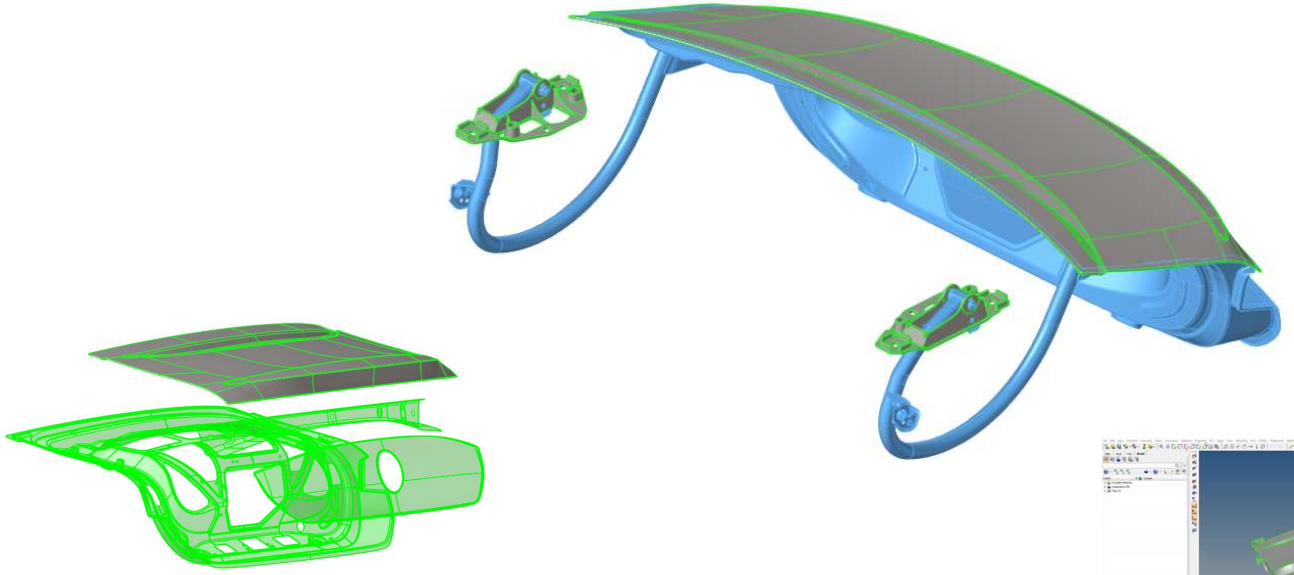
2. Selecting relevant components (Metallic – Parts)

- CAD *.IGS

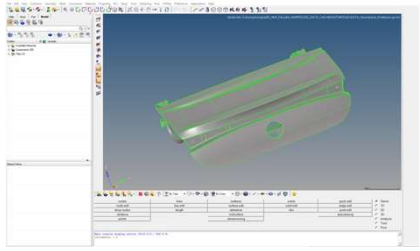
- orig. components **35**
- Relevant components **4**

- Midsurface creation *.TCL - Script – Process





After selection, 4 metalic components remain

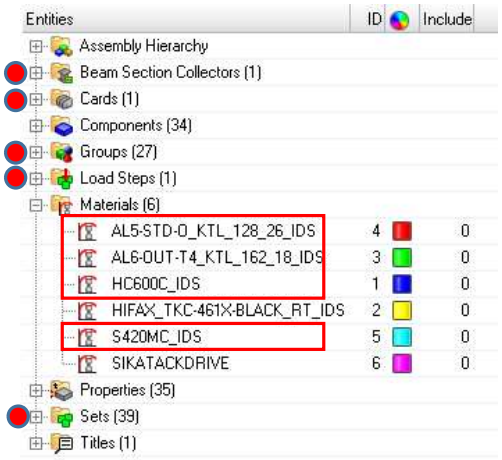


Altair

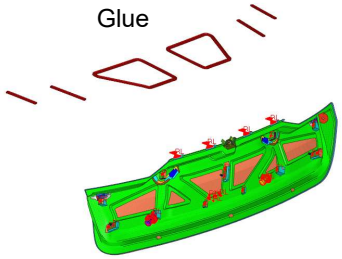
- MESH *.INC

- orig. components 34
- Relevant components **4**

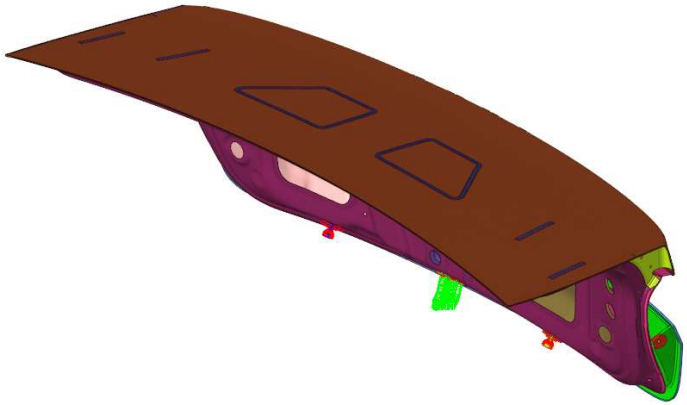
- Meshbased CAD creation fe2geo.tcl



Deleted

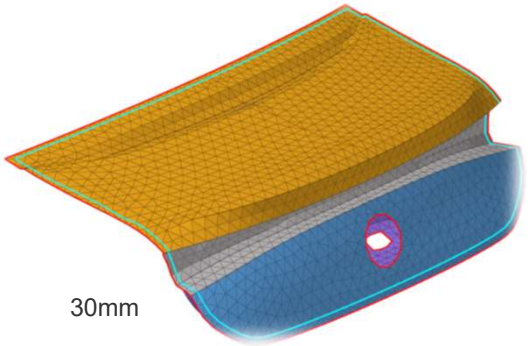


Non metallic Parts
can be cancelled



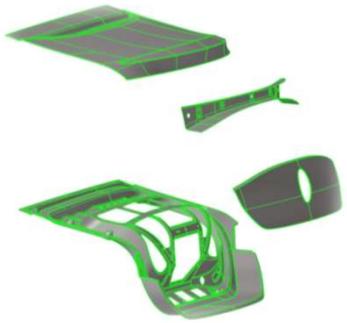
3. Part Cleanup - Simplify - Connection – Mesh Creation

- CAD and MESH

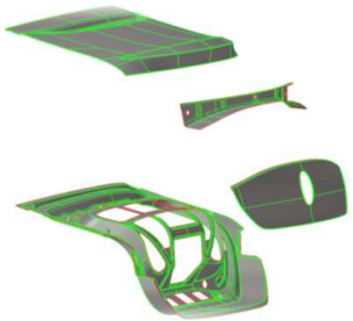


- **Part Connection**
- **Part Cleanup / simplification**
- **Mesh Creation / Quality Checks**

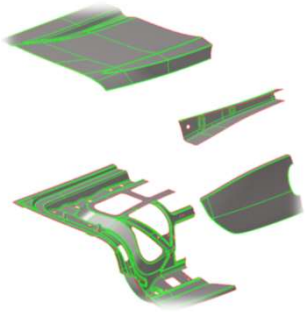
a) **Single Component**
b) **Midsurf Parts**
c) **Symmetry → Reduce the estimate Time**
d) **Cleanup and Part Connection**
e) **Mesh Creation and Quality Check**



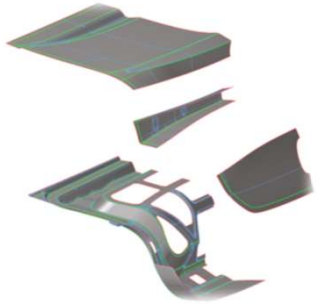
a. Solid Parts



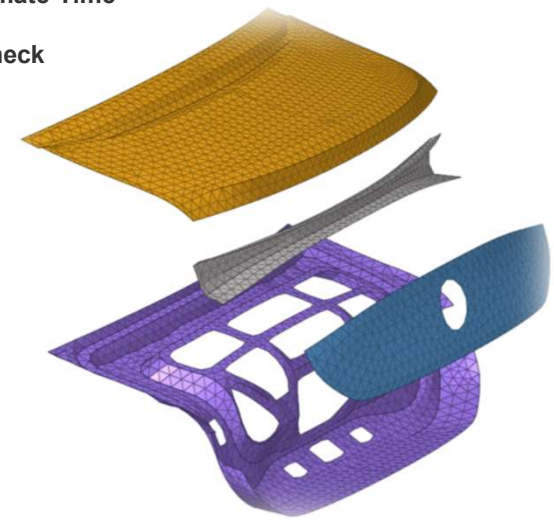
b. Midsurf Parts



c. Symmetry Parts (Processing Time)



d. Cleanup and connection



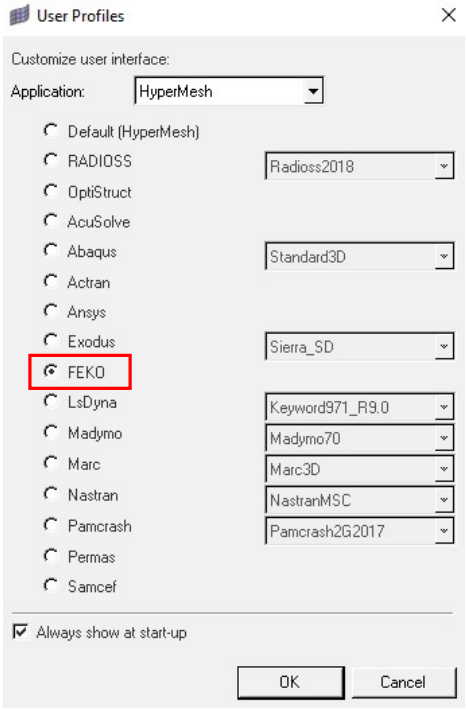
e. Mesh and Quality Checks

4. HyperMesh Export

HyperMesh 2019 – FOR FEKO

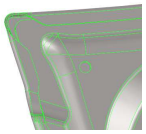
- HyperMesh Export
  Export Format: *.fhm

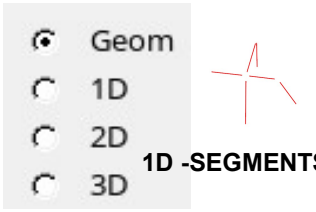
NEW USER PROFILE 4FEKO



FEKO SPECIAL USER SETTINGS

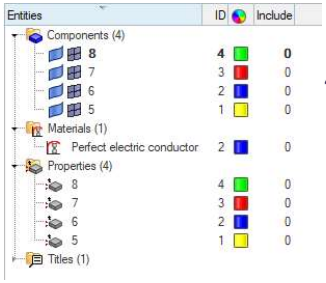
SOLID CAD- DATA



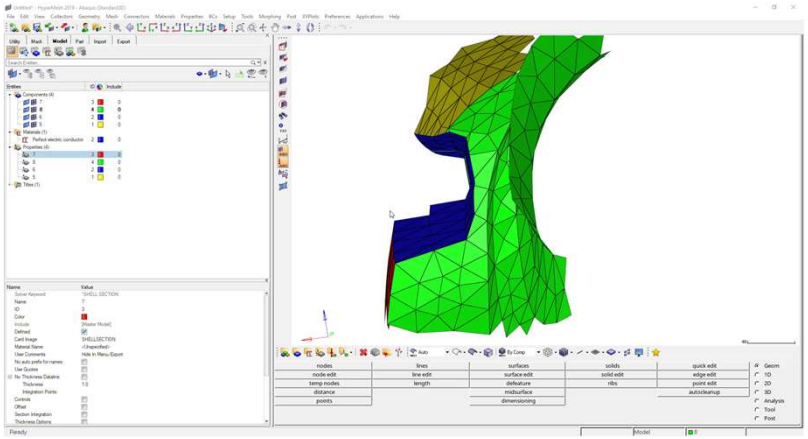


1D -SEGMENTS

2D –TRIA ELEMENTS

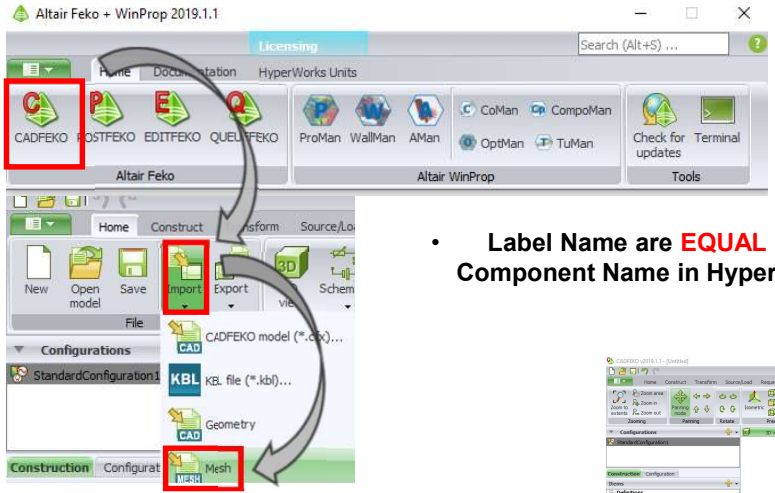


3D – TETRA ELEMENTS



HyperMesh 2019 – FOR FEKO

- HyperMesh Import
  Import Format: *.fhm



- **Label Name are EQUAL as Component Name in HyperMesh**